

Claims

5 1. A curable composition comprising a) at least one epoxy resin, b) at least one reactive liquid polymer, and c) at least one reaction product of an epoxy resin and a reactive liquid polymer.

10 2. The composition of claim 1 wherein a) is a diglycidyl ether of a bisphenol compound.

 3. The composition of claim 1 wherein a) is a diglycidyl ether of bisphenol F.

15 4. The composition of claim 1 wherein b) is a carboxyl-terminated, hydroxy-terminated, epoxy-terminated polymer, or mixtures of two or more thereof.

20 5. The composition of claim 1 wherein b) is a dicarboxyl-terminated polymer, a dihydroxy-terminated polymer, a diepoxy-terminated polymer, a reaction product statistical monofunctional carboxyl-terminated polymer, a reaction product statistical monofunctional hydroxy-terminated polymer, a reaction product statistical monofunctional epoxy-terminated polymer, a blended product statistical monofunctional carboxyl-terminated polymer, a blended product statistical monofunctional hydroxy-terminated polymer, a blended product statistical monofunctional epoxy-terminated polymer or mixtures of two or more thereof.

25 6. The composition of claim 5 wherein b) has a polymer backbone derived from polyethylene, polyisobutylene, polybutadiene, polyisoprene, poly(ethylacrylate), copolymers of butadiene and acrylonitrile, copolymers of butadiene and acrylates, or copolymers of butadiene and styrene.

30 7. The composition of claim 1 wherein b) is a diepoxy-terminated polymer, a

reaction product statistical monofunctional epoxy-terminated polymer, a blended product statistical monofunctional epoxy-terminated polymer or mixtures of two or more thereof.

5 8. The composition of claim 1 wherein b) has a Brookfield viscosities of from about 500 cps to about 2,500,000 cps at 25° C.

10 9. The composition of claim 1 wherein c) is a reaction product of 1) a dicarboxyl-terminated polymer, a dihydroxy-terminated polymer, a diepoxy-terminated polymer, a reaction product statistical monofunctional carboxyl-terminated polymer, a reaction product statistical monofunctional hydroxy-terminated polymer, a reaction product statistical monofunctional epoxy-terminated polymer, a blended product statistical monofunctional carboxyl-terminated polymer, a blended product statistical monofunctional hydroxy-terminated polymer, a blended product statistical monofunctional epoxy-terminated polymer or mixtures of two or more thereof and 2) at
15 least one epoxy resin.

20 10. The composition of claim 8 wherein the epoxy resin is a diglycidyl ether of a bisphenol compound.

25 11. The composition of claim 1 wherein c) is a reaction product of 1) at least one epoxy resin and 2) a dicarboxyl-terminated polymer, a reaction product statistical monofunctional carboxyl-terminated polymer, a blended product statistical monofunctional carboxyl-terminated polymer, or mixtures of two or more thereof.

 12. The composition of claim 10 wherein the epoxy resin is a diglycidyl ether of a bisphenol compound.

30 13. The composition of claim 1 further comprising d) at least one reactive diluent.

14. The composition of claim 12 wherein the reactive diluent is a glycidyl ether.

15. The composition of claim 1 further comprising a curing agent.

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16. A composition comprising a) at least one diglycidyl ether of a bisphenol compound, b) at least one reactive epoxy liquid polymer, and c) at least one reaction product of 1) at least one epoxy resin and 2) a dicarboxyl-terminated polymer, a reaction product statistical monofunctional carboxyl-terminated polymer, a blended product statistical monofunctional carboxyl-terminated polymer, or mixtures of two or more thereof.

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17. The composition of claim 15 wherein the bisphenol compound is bisphenol F.

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18. The composition of claim 15 wherein b) is a carboxyl terminated polymer.

19. The composition of claim 1 further comprising d) at least one reactive diluent.

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20. The composition of claim 12 wherein the reactive diluent is a glycidyl ether.

21. The composition of claim 1 further comprising a curing agent.

22. A method of manufacturing a resin impregnated reinforced article comprising the steps of: depositing a permeable reinforcing material on a rigid mold; sealing the material from the atmosphere; placing the material under vacuum; and, impregnating the material with the composition of claim 1.

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23. The method of manufacturing a resin impregnated reinforced article of claim 22, wherein the permeable reinforcing material is comprised of a laminate.

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24. The method of manufacturing a resin impregnated reinforced article of claim 22, wherein the permeable reinforcing material is comprised of preformed cloth.

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25. A method of manufacturing a resin impregnated reinforced article comprising the steps of: depositing a permeable reinforcing material on a rigid mold; sealing the material from the atmosphere; placing the material under vacuum; and, impregnating the material with the composition of claim 16.

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26. The method of manufacturing a resin impregnated reinforced article of claim 25, wherein the permeable reinforcing material is comprised of a laminate.

27. The method of manufacturing a resin impregnated reinforced article of claim 25, wherein the permeable reinforcing material is comprised of preformed cloth.

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28. A laminate derived from a permeable reinforcing material and the composition of claim 1.

29. A laminate derived from a permeable reinforcing material and the composition of claim 16.